

# The Commercialization of Knowledge Management Practices to K-based Development in Malaysia

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## ABSTRACT

*The purpose of this research is to study the connection between the commercialization of knowledge management practices and its contributions towards the knowledge-based development in Malaysia. Theoretical relations in this research are tested through an empirical study carried out on among public-listed organizations in the industrial products, consumer products and services industries in Malaysia. The findings of this paper reveal that it is important for corporations to focus on knowledge management in the development of the organization's corporate strategy. Empirical evidence supports the view that firms with knowledge management capabilities and understanding will utilize these capabilities to drive their quality strategy thus performing better than those that do not. In addition, the finding serves as an initial move among private sector towards a knowledge-based country. The paper concludes that these practices have a positive incidence not only on the performance of the firm but it also gives some initial contributions towards the development of Malaysia as knowledge-based country.*

## Keywords

*Knowledge-based development, corporate strategies, firm performance, public-listed organizations, Malaysia.*

## 1.0 INTRODUCTION

The 21<sup>st</sup> century's knowledge economy is marked by major developing trends such as pervasive computing, mass customization, continuous learning, globalize competition, collaborative partnering and virtual enterprises. It is an economy in which value flows from the technology and practices used to harness an organization's knowledge resources and knowledge-processing skills. In order to remain competitive, initiatives to expand the market for Malaysian products and services has to be undertaken by strengthening the country's position in traditional markets and by exploring new markets. As such, initiatives to liberalize trade under World Trade Organizations (WTO), AFTA as well as bilateral free trade arrangements with countries in East Asia, South Asia and Asia Pacific are expected to expand Malaysia's global reach. One of the biggest challenges under the Ninth Malaysia Plan is managing knowledge in human capital and its related development and upgrading

the mental capabilities and intellectual capacity of a nation. The move towards globalizations means that the country is embracing the knowledge-based economy, where the development of human capital is a priority. In order to remain competitive, private organizations in Malaysia have to utilize their strategic resources more proactively and they have to make their objectives and practices consistent with the organization's vision and policy to become competitive.

In light of these developments, organizations through their corporate management and those involved in the developing strategies should take note of the major impact of knowledge in the formulation of corporate strategy (CS) and its ultimate goals. Initially, there would be a need to look at outcomes derived from an analysis of the internal organization to better position the company to prevail in the ongoing competitive challenges it confronts. The alignment of KM strategy and CS directs an organization to maintain its long-term position and sustain the firm's competitive advantage. Subsequently, this study explores the scope of the knowledge activities among firms and the extent to which these practices contribute to the performance of the organization in a way it could contribute towards the initial development of the knowledge-based move in Malaysia.

## 2.0 STATEMENT OF PROBLEM

Research which integrates knowledge management practices (KMP), CS and its impact on FP as a contributing factor towards the initial development of knowledge-based activities among industries in Malaysia is still scant. Although many studies have been conducted, they were carried out in isolation. Furthermore, whether organizations are able to leverage on the optimum use of their strategic resources through appropriate KMP and integrating these practices into every aspect of CS in order to improve organizational performance and how it contribute towards knowledge-based development in Malaysia appear to have received little attention.

This study addresses the question of whether a combination of the successful type of both CS and KMP exists that is predictive of FP in the forms of both financial and non-financial outcome among public-listed

organizations in Malaysia. The public-listed organizations have been selected due to their high engagement in the knowledge-based activities particularly those in the consumer products, industrial products and services industries. As such, investigation of alternative and interactive models can contribute to strategic management theory and knowledge-based view of the firm theory by providing additional insights in the relationships between the KM and FP model. In order to advance the theory, it is necessary to develop alternative hypotheses that investigate the interaction effects. The fit between KMP and corporate strategy as strategic elements may have positive impact on FP and contributes towards the knowledge-based development in the country.

### 3.0 FIRM PERFORMANCE

Firm Performance - this study will review both the strategic management research and knowledge management stream to discover the underlying constructs that frame FP. A number of researches in the strategic management field advocate the different intra-firm deals with both elements of organizational and environmental variable. Such differences reflect characteristics and indicators that most firms have to deal with, particularly in planning, executing and implementing CS (Schendel, 1996 as quoted by McGivern and Tvorik, 2005). This is further supported by many studies when incorporating Miles and Snow typology (1978) which is later extended by Conant et al., (1990) in differentiating the organization's actions towards various strategy and the success depends on whether the firm is categorized under prospector, analyzer, defender or reactor category (Norziha, 2005; Rozhan et al., 2001; Zabid and Anantharaman, 1997; Raja Hanaliza, 2005 and Raja Suzana, 2005). Hence, this generally accounts for differences in term of developing the organization's own CS and its impact towards FP. In turn, the strategy differential will result in low, normal or supernormal performance consequences (Hambrick, 1983).

Corporate Strategies - in the context of this study and based on the literature, the researchers combined some earlier proponents of strategy such as Miles and Snow (1978), Robbins (1990) and Chandlers (1962) and defined CS as achieving the fit between the organizational strategic resources, structures and processes. The corporate strategic choice resolves around the internal and external issues and behavior of the organization, and technological and administrative problems of the firm.

The resource-based view of the firm - developed in various work by Wernerfelt (1984), Barney (1996), Teece (2000), Teece, Pisano and Shen (1999), Prahalad and Hamel (1990), Penrose (1959) and Chandler (1962), the resource-based view asserts that a business enterprise is best viewed as a collection of sticky and difficult-to-

imitate resources and capabilities (Penrose (1959), Wernerfelt (1984) and Barney (1996).

The knowledge-based view of the firm - in 1996, Kogut and Zander as quoted by Little et al., (2002) define the meaning of organizing knowledge in organization as the main motive of the reason the knowledge-based view of the firm exists. These authors define the meaning of organizing knowledge as viewed by knowledge-based viewed theorist as a social community specializing the speed and efficiency of the creation and transfer of knowledge.

Knowledge Management Practices - in fact, there is no single ultimate definition of knowledge management, (Darroch, 2003; McCann and Buckner, 2004; Diakoulakis, et al., 2004, Lengnick-Hall and Lengnick-Hall, 2003, p. 85). However, knowledge management has been regarded as an interdisciplinary field that draws on a variety of business activities and academic specializations. In an attempt to accelerate the efficiency and effectiveness of managing knowledge issues and in the context of this study, there is a need to align them with relevant KMP and strategic choices of the firm. Hence, in achieving a fit between the elements of CS and KMP, the researchers define KM as activities which are concerned with systematic, effective management and utilization of an organization's knowledge resources where it encompasses the acquisition, dissemination and responding to an organization's knowledge which provides effective and efficient value-chain within the strategic and functional needs of the organization. Consequently, in solving various processes, problems and challenges encountered by organizations, two major themes are apparent, namely; (i) knowledge value chain and (ii) KMP goal.

The underlying principle of this theoretical model as in Figure 1 is the need to build into organizations the attributes that create conditions which allow employees and managers who are involved in knowledge issues to assume more responsibility and accountability for planning, organizing, controlling and executing their tasks in solving issues. On the strength that the theoretical model and conceptual basis can be used to assess each intended element of CS and KMP that can create opportunities for meaningful and challenging work, hence, both the CS and KMP dimensions of the model serve as the conceptual framework as well as the research framework of this study.

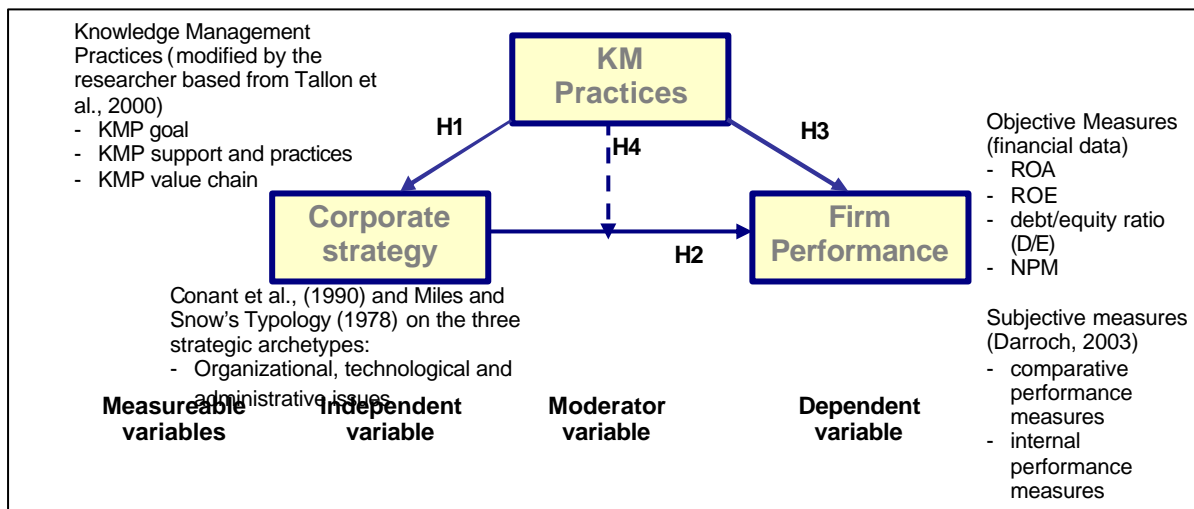


Figure 1: Theoretical Model

**Hypotheses** - The research framework model as illustrated in Figure 1, has three key major components: CS, KMP and FP. CS serves as the independent variable of this study, while KMP the moderating variable. FP is the dependent variable. The following hypotheses are formulated based on the research evidence found particularly from the descriptive studies of the relationship between CS, KMP and FP.

Snyman and Kruger (2004) in their study found that a fit between the organization's strategy and its knowledge management strategy can be achieved by exploiting organizational strategic resources and its corporate intent. The CS appears to be successful when the knowledge strategy and knowledge program is consistent with corporate ambitions and that the techniques, technologies, resources, roles, skills, are aligned and support the business objectives. Hence, the researchers derive the following hypotheses;  $H_0$  1: there is a significant relationship between each of the KMP and CS pursued.

Raja Suzana (2004) and Raja Suzana (2005) stress the key issue in strategy is to have a unique offering (low cost, high quality) in aspects of the organizational products or services. Hence, in this turbulent environment, resources appear to be useful particularly in transforming relevant knowledge to useful products and services. These resources are then used in activities which are needed in order to produce a service or good, to be supplied to customers. Based on these evidences, the linkage is anticipated as follows;  $H_0$  2: there is a significant relationship between each of the CS pursued and FP.

Parnell, Lester and Menefee (2000) seek the responses from 137 wholesale grocers in their effort to find out an alternative perspective on the knowledge strategy-performance relationship. They used Conant et al.

(1990) who had developed the eleven item scale in the original of Miles and Snow's (1978) typology. While for the FP, the return on asset (ROA) for three years was examined. The result of this study demonstrates that uncertainty varies by generic strategy, suggesting that businesses consider both the type and degree of uncertainty when crafting a competitive strategy that lead to superior FP. Hence, the researchers derive the following hypotheses;  $H_0$  3: there is a significant relationship between each KMP and FP.

In an attempt to seek the moderating effects of KMP in the relationship of CS and FP, many studies had been conducted in isolation and they did not specifically determine and explore the moderating factor of KMP. Hence, this study contributes to a new area in the Malaysian context since no previous research was undertaken. The linkage is anticipated as follows:

$H_0$  4: there is a positive relationship between CS and FP, moderated by KMP.

#### 4.0 RESEARCH METHODOLOGY

In order to test the research model, the researchers conducted a cross-sectional survey among public-listed organizations in Malaysia. A self-administered questionnaire was designed and delivered to a number of 325 organizations. This study addresses the question of whether a combination of the successful type of both CS and KMP exists that is predictive of FP in the forms of both financial and non-financial outcome among public-listed organizations in Malaysia. The public-listed organizations have been selected due to their high engagement in knowledge-based activities.

A total of 325 questionnaires were mailed to 325 public-listed organizations in Malaysia. From this, 155 organizations responded to the survey, representing a

48% response rate. However, 32 responses were unusable (9 due to incomplete answers, 11 was left return with blank answers and another 12 refusals to participate mostly due to company policies). Hence, a total of 123 responses were received and the effective response rate is 38%. These response rates are comparable to similar previous studies involving top executives. For example, Asoh (2004) surveyed top executives of firms in a study of the alignment of strategy and knowledge strategy. The author reported a response rate of 13%. Considering that mail surveys generally have low response rate, this level of response is satisfactory (Sekaran, 2000) and exceeds the calculated sample size of 120, using the GPower analysis of a medium effect size of .15 (Cohen and Cohen, 1977).

The instrument was categorized into four sections and the alpha coefficient was calculated for the four sections and for the questionnaire in its entirety. The level of significance for items was established at .05. The Alpha score obtained for all the four sections were above .89 that was well above the .70 level and this was generally acceptable for field research (Hair et al., 1998). Additionally, according to Sekaran (2000) the value of alpha level of more than 0.6 shows the research instrument is reliable for the purpose of the study. The data, therefore, suggest that the questionnaire is a reliable instrument to consistently measure the level of knowledge practices and the CS pursued in these organizations. All the questions items were measured on the 10 point Likert scale from “don’t agree at all” (1) to “completely agree” (10).

## 5.0 RESULTS

Moderated Multiple Regressions (MMR) using higher-order interactions analysis was conducted. MMR is an inferential procedure which consists of comparing two different least-squares regression equations (Aguinis, 2004). The researchers choose MMR as it allows researchers to analyze both how well the measures relate to each construct and how the independent variables influence the dependent variable. In addition, the Pearson Product moment correlation coefficient is also conducted to test the relationship between two variables. The Cronbach Alpha test was used to test the reliability of the research instrument. All the reliability coefficients (Cronbach Alpha) were above 0.6, and within the acceptable range (Nunally, 1978). All the dimensions of the Cronbach Alpha exceeded 0.7.

Assessment of the Model - Two models were tested to assess the effects of moderating variable. Model 1 excluded the interaction effects and Model 2 included all the interaction effects as shown in Table IV. In formulating and testing interaction effect, the research applied a procedure described by Aguinis (2004). The value of the  $R^2$  for Model 1 and  $R^2$  for Model 2 were compared to assess the moderating strength of KMP in total. In addition, the result of the r-square Coefficient is

also presented in Table 3 to determine the relationship between each independent variable and dependent variable. All three hypothesis were supported and have a significant association between each variable at the 0.001 level.

Table 3: The result of the r-square coefficient

Hypothesis tested	r- Coefficient	r-square Coefficient
H1	0.64**	0.41
H2	0.50**	0.25
H3	0.50**	0.23

As shown in Table 3, all rCoefficients regarding the positive association (H1, H2 and H3) were significant at the 0.001 level and the path coefficients regarding direct effect for H4 was also significant at the 0.001 level. For Model 1, as in Table 4, the explained variance  $R^2$  was .490, indicating that the CS explained 49% variance. With the introduction of KMP [product term - ( $b_3CS.KMP_1 + b_4CS.KMP_2 + b_5CS.KMP_3$ )] in Model 2,  $R^2$  was increased to .621. The addition of the product term resulted in an  $R^2$  change of .131,  $F(3, 117) = 13.487$   $p < 0.001$ . These results support the presence of a moderating effect. In other words, the moderating effect of KMP explains 13.1 per cent of variance in FP increase and beyond the variance explained by CS scores and KMP choices.

Table 4: The result of the MMR

Hypothesis tested	Model 1		Model 2	
	Beta	t-value	Beta	t-value
H4- CS*KMP				
CS	.139 <sup>ns</sup>	1.759	.266**	2.904
KMP	.612**	7.757	1.990**	2.374
CS.KMP			-1.062**	-2.487
$R^2$	.490		.621	
Adjusted $R^2$	.482		.605	

Notes: \*\*  $p < 0.001$ , <sup>ns</sup> non-significant

The higher-order interaction effects of the MMR test was conducted to differentiate the level of those adopted KMP and non-KMP. The Coefficients Table as shown in Table V also includes information regarding the regression coefficients after the product term is entered in the equation. The equation is the following:

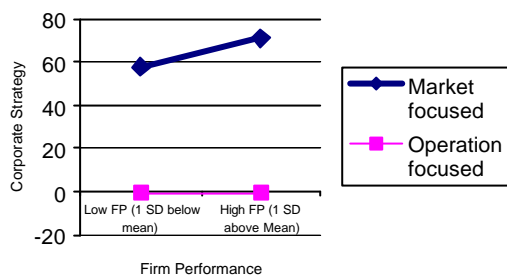
Equation 1:

$$FP = -.1218 + .323CS + 1.726KMP - .272CSXKMP_1 + .126CSXKMP_2 + .341CSXKMP_3$$

The CS – FP relationship for each group is shown in the Figure 3 below. The researchers chose values of 1 (SD) above and below the mean for CS (Cohen, et al., 2003, Aguinis, 2004). Referring to the mean score for CS is 6.00 and the standard deviation (SD) is .69 from the

descriptive results, the value of 1 SD above and below the mean is created. Hence, using the value of 6.70 (1 SD above the mean) and 4.89 (1 SD below the mean), yields the graph shown in Figure 3. Results from Equation 1 led to the conclusion that there is a moderating effect of KMP. A perusal of Figure 3 showing the CS—FP increase relationship for each of the groups separately gives a better sense that the relationship is stronger (i.e. steeper slope) for the market focused group as compared to those of operation focused group.

Figure 3: Slopes for FP on CS for KMP (Market focused and Operation focused)



## 6.0 CONTRIBUTION TO THE THEORY AND BODY OF KNOWLEDGE

This study also appears to be the first of its kind within the context of Malaysian perspective emphasizing KMP in the strategy point of view and its contributions towards the development of the knowledge-based agenda of the country as well as within the organizational level. Thus, this study has theoretical implications for academicians and practitioners. The study combines aspects of disparate research and integrates unique perspective and ideas from scholars in the field of strategic management (Porter, 1985; Stabell and Fjeldstad, 1998); knowledge management (Darroch, 2003); information technology field (Tallon et al., 2000), and strategic marketing issues (Jaworski and Kohli, 1990). This is done to illuminate the concept of KMP in an effort to develop a suitable KMP construct and framework. The framework on KMP opens new avenues for research and scholastic discourse in knowledge management, information technology, and marketing and even in the strategic management fields. Secondly, the utilization and integration of KMP in crafting CS from the viewpoint of strategy or the strategic management of knowledge and its operationalization has yet to be looked into by research in the Malaysian view. Hence, the results of this finding empirically contribute to a new area in the Malaysian context since no previous research has been undertaken.

Thirdly, this study makes proposition for the structuring of KM concept, for example, KMP to be fully utilized in crafting the CS of the organization because the results provide empirical evidence that KMP facilitates the

success of a good business operation structure, which, in turn leads to better FP and contribute to a greater understanding of how KMP can improve FP and some beneficial issues in a move towards knowledge-based development among industries in Malaysia. Fourthly, the study also empirically identifies the categories of the KMP choices among organizations (the market focused, the dual focused, the operation focused and the unfocused groups), how these choices relate to strategic response (the prospector, the analyzer, the defender and the reactor groups); and how the fit between each of the KMP choice and CS strategy response impacts FP. Such will give a reflection that organizations with different KMP choice and CS strategy response may provide different impact on the knowledge-based intention among industries in the country.

The empirical result of relationships and differences on each of the choice of KMP and strategic response of CS reflects that KMP constitutes a base for making informed and intelligent resource allocation decisions. KMP which is concerned heavily on the knowledge-related activities appear to be one of the useful assets and can be utilized as strategic resources of the organizations as the study uses empirical data in providing the explanation of the concept studies. Specifically, this study reveals that it may make more sense for firms to incorporate knowledge management practices in crafting their corporate strategies as response to business needs since this study shows such traditional practice of crafting corporate strategy alone do not adequately enhance business activities in terms of firm performance objectives. This study appears to contribute to a new understanding that KMP is not necessarily been focused on the processes alone, instead its overall usage and utilization towards crafting the CS as well as the orientation of the strategic response is crucial. Hence, the authority concerned on the agenda of the knowledge-based moves should ensure that organization be well-equipped and utilized the KMP in crafting CS issues of the organizations as an initial move to direct the organizations towards the better planning and dealing both at the strategic and functional needs of the firm.

## 7.0 IMPLICATIONS FOR PRACTICES TOWARDS KNOWLEDGE-BASED DEVELOPMENT

These results and findings have noteworthy implications for both researchers and practitioners in the initial move towards the knowledge-based development of the country. Correspondingly, managers, practitioners, scholars and organizations that attempt to incorporate KMP could make the following manipulations to promote KMP in their organizations:

### 7.1 Managerial Contribution

Management need to encourage a culture of lifelong learning not only among the corporate level people involving top management, but also to include their



corporate strategic personnel, because educators cannot teach everything that a student needs to know within a three or four-year program. An environment that encourages self-learning must be inculcated where personnel are facilitated in the transition towards performance of the highly knowledge-based organization.

## 7.2 Contribution to Organizations

The study verifies the real benefits that practitioners and organizations experience with particular focus on private companies in Malaysia. It provides a straightforward and answered for organizations alike in thinking about their most available resources: knowledge and human resource as well as on how to manage this efficiently and effectively through one proper system: knowledge management.

## 7.3 Curriculum Development and Educators

The impact of KMP in the perspective of crafting and even reorganization of CS requires educators to design programs that promote lifelong learning. The increasing attention put by many in emphasizing the need to have KM system and practices in the organizational setting demand the changes in the mindset of the educator to continually cope-up with the recent trends of the corporate change in strategic management of the organization.

## 8.0 CONCLUSION

The results of this study add to our understanding of the relationship between CS and KMP and their significant implications towards the performance of the organization and thus have the potential to contribute theoretically to both management strategy and knowledge management fields literature. The data suggests the presence of the concept of organizational fit between organizational structure and process. This finding is consistent with the earlier organization literature. The presence of the organizational fit itself suggests that every organization choose its own target market and develop its own set of products and services. This domain decisions were supported by appropriate decisions concerning the organization's technological, structure and process. This study finds that organizations which adopted the prospector strategy enable a greater use of more integrated strategy, with the implementation of KMP within their organization structure.

The study reveals that KMP had a significant moderating effect on the relationship between the CS and FP. While previous studies claimed the CS can contribute to the performance of the organization, this research indicated that the organization that adopted the specific type of strategy (for instance; the prospector, analyzer, defender or reactor) alone, did not sufficiently explain better FP although it significantly affected FP. All the three dimensions of the KMP; the KMP goal, the KMP support and the KMP corporate value-chain enabled the

integration of the organizational, technological and administrative issues to flow more effectively and efficiently. The presence of the value chain activities in organization enables the process of acquiring, disseminating and responding to the knowledge agenda and help organizations to pinpoint areas within the organization where the KMP is creating value. Thus, this can be served as a model for an initial move among organizations to participate in the country's move towards the knowledge-based development agenda.

Nevertheless, having discussed the above conclusions, this study raises at least three limitations. First, the response rate was high but the sample size (325) was relatively small. A larger sample would bring more statistical power. Second, the generalizability of the result may be limited since a majority of the respondents was only those among the public-listed organizations listed in the Bursa Malaysia. The replication of this study in organizational contexts is necessary before the results can be generalized to the other form of organizations. Those in consideration may extend the study to the Multimedia Super Corridor (MSC) companies, the organizations registered with the Federation of Malaysia Manufacturers, the multinational companies in Malaysia, the government-linked companies and even those agencies and ministries under the Government of Malaysia. Third, due to resource limitations, the research was cross-sectional, attempting to predict KMP in the aspect of CS of the organization. In future research, this study should be extended to examine actual KMP using longitudinal data. This may provide more insights into KMP among organizations in Malaysia, as well as the relationship between additional issues in the corporate value-chain where KMP can add value not only to the organizations, but as main contributing factors towards the development of the knowledge-based issues and challenges in the country.

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